

U.S.S.N. 10/065,639

-2-

3707 (LC 0101 PUS)

**IN THE CLAIMS:**

1. (withdrawn) A throw-in mat for use in a vehicle having a rubber-like fee comprising:

- a primary backing layer having a first side and a second side;
- a carpet pile sewn to said first side; and
- a recyclable, thermoplastic backing material coupled to said second side.

2. (withdrawn) The throw-in mat of claim 1, wherein the composition of said recyclable, thermoplastic backing material comprises an ethylene-octene copolymer.

3. (withdrawn) The throw-in mat of claim 2, wherein said ethylene-octene copolymer is formed using a metallocene catalyst.

4. (withdrawn) The throw-in mat of claim 2, wherein a portion of said ethylene-octene copolymer has a melt index of approximately 30.

5. (withdrawn) The throw-in mat of claim 4, wherein a second portion of said ethylene-octene copolymer has a melt index of approximately 3.

6. (withdrawn) The throw-in mat of claim 3, wherein said metallocene catalyst is selected from the group consisting of Exact, manufactured by Exxon, and Engage, manufactured by Du Pont Dow Elastomers.

7. (withdrawn) A recyclable, thermoplastic backing material for use a throw-in mat comprising:

- a first recyclable thermoplastic material having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0; and
- a second recyclable thermoplastic material having a melt index of approximately 1-5 and a density of approximately 0.7 to 1.0.

U.S.S.N. 10/065,639

-3-

3707 (LC 0101 PUS)

8. (withdrawn) The backing material of claim 7, wherein said first recyclable thermoplastic material comprises an ethylene-octene copolymer formed using a metallocene catalyst.

9. (withdrawn) The backing material of claim 8, wherein said second recyclable thermoplastic material comprises an second ethylene-octene copolymer formed using said metallocene catalyst.

10. (withdrawn) The backing material of claim 7, wherein said first recyclable thermoplastic material comprises a first ethylene-octene copolymer and wherein said second recyclable thermoplastic material comprises an second ethylene-octene copolymer, each of said first ethylene-octene copolymer and said second ethylene-octene copolymer formed using a metallocene catalyst.

11. (withdrawn) The backing material of claim 7, wherein said metallocene catalyst is selected from the group consisting of Exact, manufactured by Exxon, and Engage, manufactured by Du Pont Dow Elastomers.

12. (currently amended) A method for forming a throw-in mat having a rubber-like feel and weight, the method comprising:

providing a carpet pile sewn through a first side of a primary backing layer;

forming a recyclable, rubber-like thermoplastic backing material comprising an ethylene-octene copolymer formed using a metallocene catalyst;

coupling said recyclable, rubber-like thermoplastic backing material to a second side of said primary backing layer to form the throw in mat, said second side being opposite of said first side;

introducing the thrown-in mat to a mat press;

pressing the throw-in mat at a desired temperature and a desired pressure for a predetermined period of time within said mat press to form said recyclable, rubber-like

U.S.S.N. 10/065,639

-4-

3707 (LC 0101 PUS)

thermoplastic backing material including a plurality of completely formed nibs formed thereon;

removing said throw-in mat from said mat press; and

cooling said throw-in mat in a cold press;

wherein said completely formed nibs do not break easily during subsequent use.

13. (previously presented) The method of claim 12, wherein forming a rubber-like thermoplastic backing material comprises:

introducing a recyclable, rubber-like thermoplastic material comprising an ethylene-octene copolymer formed using a metallocene catalyst to a mixing device;

introducing a plurality of raw materials to a mixing device after the introduction of said recyclable, rubber-like thermoplastic material, said plurality of raw materials selected from the group consisting of a plasticizer, an additive, a thermoplastic additive, and a filler; and

mixing said plurality of raw materials and said recyclable, rubber-like thermoplastic material within said mixing device to form a recyclable, rubber-like thermoplastic backing material.

14. (previously presented) The method of claim 13, wherein said ethylene-octene copolymer formed using a metallocene catalyst comprises a first ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0.

15. (previously presented) The method of claim 14, wherein said ethylene-octene copolymer formed using a metallocene catalyst further comprises a second ethylene-octene copolymer formed using said metallocene catalyst and having a melt index of approximately 2-4 and a density of approximately 0.7 to 1.0.

U.S.S.N. 10/065,639

-5-

3707 (LC 0101 PUS)

16. (previously presented) The method of claim 13, introducing a plurality of raw materials to a mixing device and mixing said plurality of raw materials comprises:

introducing a recyclable, rubber-like thermoplastic material comprising an ethylene-octene copolymer formed using a metallocene catalyst to a loss in weight feeder;

introducing a plurality of raw materials to a loss in weight feeder after the introduction of said recyclable, rubber-like thermoplastic material, said plurality of raw materials selected from the group consisting of a plasticizer, an additive, a thermoplastic additive, and a filler;

feeding said plurality of raw materials and said recyclable, rubber-like thermoplastic material from said loss in weight feeder to a continuous mixer;

mixing said plurality of raw materials and said recyclable, rubber-like thermoplastic material within said mixer to form a mixture;

introducing said mixture to an extruder;

extruding said mixture in said extruder to form an extruded material;

pelletizing said extruded material with an underwater pelletizer to form a plurality of pellets;

introducing at least one of said plurality of pellets to an extruder;

melting said at least one of said plurality of pellets to form a recyclable, rubber-like thermoplastic backing material; and

forcing said recyclable, rubber-like thermoplastic backing material out of a bottom of said extruder at a desired temperature.

17. (original) The method of claim 16, wherein said desired temperature is between approximately 165 and 185 degrees Celsius.

18. (canceled)

U.S.S.N. 10/065,639

-6-

3707 (LC 0101 PUS)

19. (original) The method of claim 12, wherein said desired temperature is between approximately 165 and 185 degrees Celsius and said predetermined period of time is approximately 20 seconds.

20. (canceled)

21. (currently amended) A method for forming a throw-in mat having a rubber-like feel and weight, the method comprising:

providing a carpet pile sewn through a first side of a primary backing layer;  
forming a recyclable, rubber-like thermoplastic backing material comprising an ethylene-octene copolymer formed using a metallocene catalyst; wherein said ethylene-octene copolymer formed using a metallocene catalyst comprises a first ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0 and a second ethylene-octene copolymer formed using said metallocene catalyst and having a melt index of approximately 2-4 and a density of approximately 0.7 to 1.0;

coupling said recyclable, rubber-like thermoplastic backing material to a second side of said primary backing layer to form the throw in mat, said second side being opposite of said first side;

introducing the thrown-in mat to a mat press;

pressing the throw-in mat at a desired temperature and a desired pressure for a predetermined period of time within said mat press to form said recyclable, rubber-like thermoplastic backing material to a desired shape, said recyclable, rubber-like thermoplastic backing material including a plurality of completely formed nibs ~~formed~~ thereon;

removing said throw-in mat from said mat press; and

cooling said throw-in mat in a cold press; wherein said completely formed nibs do not break easily during subsequent use.